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ABSTRACT

This booklet is one of 34 in a series of programs on childhood education prepared for the White House Conference on Children. In Parkersburg, West Virginia, Project PLAN (Program for Learning in Accordance with Needs) offers an individualized instructional system designed to enable each student to progress at his own rate, using the learning method and the instructional materials best suited to him. Project PLAN operates in existing school facilities and with commercially available materials. A unique feature, computer management of the student's program of studies and of various nonteaching tasks, frees the teacher to devote her time to facilitating the learning of individual students. As presently developed, Project PLAN focuses on the basic subjects of reading and language arts, mathematics, science, and social studies. In addition, a special guidance curriculum encourages students to do their own planning, decisionmaking, and management of classroom time, and provides an introduction to the wider worlds of work, leisure, and citizenship. Project PLAN uses a three-part approach to individualized instruction. (SK)

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Model Programs

Childhood Education

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Project PLAN

Parkersburg, West Virginia

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OE-20150

Model Programs

Childhood Education

Project PLAN

Parkersburg, West Virginia

The need for individualized instruction is being met by an innovative educational system that focuses on major subject areas and encompasses all grade levels

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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FOREWORD

This booklet is one of 34 in a series of promising programs on childhood education prepared for the White House Conference on Children, December 1970. The series was written under contract by the American Institutes for Research for the Office of Economic Opportunity, and the Office of Child Development and the Office of Education, U.S. Department of Health, Education, and Welfare.

Within the broad area of childhood education the series includes descriptions of programs on reading and language development, the disadvantaged, preschool education, and special education. In describing a program, each booklet provides details about the purpose; the children reached; specific materials, facilities, and staff involved; and other special features such as community services, parental involvement, and finances. Sources of further information on the programs are also provided.

No two students are alike. They have different abilities, interests, and mental and physical characteristics that influence the way they learn and how quickly. In Parkersburg, W. Va., Project PLAN (*P*rogram for *L*earning in *A*ccordance with *N*eeds) offers an individualized instructional system designed to enable each student to progress at his own rate, using the learning method and the instructional materials best suited to him.

Project PLAN operates in existing school facilities and with commercially available materials. A unique feature, computer management of the student's program of studies and of various nonteaching tasks, frees the teacher to devote her time to facilitating the learning of individual students. As presently developed, Project PLAN focuses on the basic subjects of reading and language arts, mathematics, science, and social studies. In addition, a special guidance curriculum encourages students to do their own planning, decisionmaking, and management of classroom time, and provides an introduction to the wider worlds of work, leisure, and citizenship.

Project PLAN uses a three-part approach to individualized instruction:

- Meaningful sequences of specific behavioral objectives clearly stating what the student is expected to accomplish
- Teaching-Learning Units (TLU's), study guides prescribing various learning activities by which the student may accomplish the assigned objectives
- Performance tests related to the objectives on a one-to-one basis and measuring what the student is able to do as a result of what he has learned

MEETING THE NEED FOR AN INDIVIDUALIZED INSTRUCTIONAL SYSTEM

Parkersburg is in the Wood County School District, long a leader in innovation. In February 1967, when the American Institutes for Research, Palo Alto, Calif., signed a contract with Westinghouse Learning Corporation to develop Dr. John C. Flanagan's conception of PLAN, the Wood County school district became

one of 13 across the country to support the project.[1] Three teachers from Parkersburg went to Palo Alto to work with teachers from the other districts, nationally known curriculum experts, and AIR's behavioral scientists to develop the program for grade levels one, five, and nine. In September 1967 Project PLAN became operational in the Parkersburg schools at those grade levels. Each succeeding year, three more grade levels were added until by September 1970 the PLAN system had been introduced at all grade levels one through 12. Thus any student beginning in the program has had the opportunity to continue.

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[1]Other districts participating in the developmental aspects of the project are: Bethel Park (Pa.); Hicksville (N.Y.); Penn-Trafford (Harrison City, Pa.); Pittsburgh (Pa.); Quincy (Mass.); Archdiocese of San Francisco (Calif.); Fremont Unified School District (Calif.); San Carlos Elementary (Calif.); San Jose Unified School District (Calif.); Santa Clara Unified School District (Calif.); Union Elementary (San Jose, Calif.); and Sequoia Union High School District (Redwood City, Calif.)

COMMUNITY AND SCHOOL DISTRICT

Parkersburg is a community with a diverse chemical industry, stable employment, and a primarily white population of medium-income residents who tend to be permanent. Less than 10 percent are on welfare.

There are 51 schools in the Wood County School District. Average class size is 28 students, with IQ's slightly above average. In Parkersburg 603 students in six schools are in Project PLAN at levels one through 12. Students are considered average, with no significant physiological or emotional factors involved in their selection for the program. Approximately 50 percent have had preschool experience. Classes are held in traditional school buildings, with only minor modifications to accommodate the storage of new learning resource material and the small computer terminal.

THE PLAN IMPACT

The PLAN classroom is an exciting, active place. There are no rows of desks facing front--no teacher's desk backed by blackboards. Instead, small groups of students cluster together for discussion. Others work alone, quietly absorbed in reading, listening to tapes, watching films, taking tests, performing experiments. Still others move purposefully from one activity to another, working alone or with their classmates.

Where is the teacher? She is listening in on an oral report, helping a child with a problem, counseling a student about his next unit of work, reviewing a written report with another. She instructs students individually or in small groups, providing each student with guidance and encouragement.

The organization of PLAN classrooms varies according to the needs of the students, the ideas of the teacher, and the facilities of the school. Some classrooms are organized for team teaching; most are divided into four general areas--one for each of the subject areas of reading and language arts, mathematics, science, and social studies. Materials for each subject are stored in its particular section of the room. Many PLAN teachers further subdivide the room into areas for particular activities. For example, one area may have books, tables, and chairs and be devoted to quiet study; another may contain audiovisual equipment and be used for a listening center; still another may include materials and equipment for science projects and other group work.

PROGRAM, OBJECTIVES, AND LEARNING ACTIVITIES

The underlying base providing meaning and organization for a student's educational experience is his Program of Studies, an outline of the specific objectives he should achieve in each area.

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Programs of Studies are based upon the best available data on each student as gathered from teachers, parents, the student himself, and from test information. These data are matched with TLU characteristics to provide a Program of Studies most appropriate for each student.

The child's study is guided first by the teacher, who remains at the heart of the PLAN system, and then by a series of TLU's. Organized around sets of behavioral objectives, these TLU's have been prepared by classroom teachers and professional educators to suit individual learning styles and to take advantage of a wide range of contemporary learning tools and techniques. TLU's are selected to fit each student's abilities, established objectives, and interests. For example, the TLU of a student who learns best by listening might direct him to use and respond to a series of tape recordings. Another student who responds best to the printed page might be asked to go to the library and seek out his own source material.

The variety of TLU's available and the instructional materials used are well illustrated in the primary reading and mathematics programs. When a youngster enters the first grade, he can use one or a combination of four reading programs. One TLU is based on

the approach of the *Sullivan Programmed Reading Series*, which is a careful and precise analysis of our language. The phonetically "regular" and "irregular" sound-symbol groups have been classified and organized for the most effective learning sequence. Another TLU is based on the Harper and Row *Linguistic Readers*, designed for the student who enters school with an enriched background, knowing letter names and able to move at a rapid pace. A third TLU, based on the *Chandler Language-Experience Readers*, is designed for the student with a rather limited background who learns best with a principally "look-say" method in which phonics skills are developed slowly. The fourth TLU references the *Miami Linguistic Readers* and is written for the student with very limited or bilingual background and home environment. This program contains extensive repetition and review of the linguistic skills and vocabulary.

The behavioral objectives in each of these programs are the same. Level I students take the same achievement tests, regardless of the TLU approach they are using to learn to read.

In addition to the basic text materials in the different reading programs, each TLU contains a multitude of materials and activities to reinforce the concept being learned. For example, to

learn the sound-symbol *m*, an activity using the Sullivan material may introduce the letter and give the student practice in its use. Then the TLU might direct the student to a tape which reads a nonsense story emphasizing the *m* sound. In another activity the child may go to a filmstrip projector and record player to look and listen to illustrations of the same sound. The TLU may then ask the student to draw pictures of things whose names begin with the *m* sound.

Supplementing and enriching the reading programs, another series of TLU's in language arts is designed to present tools by which ideas can be communicated. These TLU's contain speaking and listening activities as well as experiences with literature. Other activities develop creative writing skills, extend vocabulary, and develop organization skills.

The mathematics program at the primary level gives the student two approaches. One set of TLU's is for students who learn best by an intuitive, self-discovery approach which is pattern-oriented. They are challenged to think about relationships, to look for patterns and clues, and to draw logical conclusions by themselves. They are given many experiences at the nonverbal level before a concept is stated or a generalization made. The

other TLU in the mathematics program is also an intuitive approach, but is more numerically oriented. Students in this program receive more formal practice in arithmetical operations. Again, although students may use different routes to achieve the same mathematical objectives, their achievement is measured by the same test.

Audio tapes are used throughout the PLAN system. They are of great importance at the primary level, when students' reading ability is limited. Using tapes, a child can be given test instructions individually, or a story can be read to him when he is ready for it. Tapes free the teacher from many routine details and give her a greater opportunity to interact meaningfully with each student.

The student asks to be tested when he and his teacher agree that he has achieved the objectives set forth in his TLU. PLAN tests are used to determine whether he has mastered his material; they are not used to find out how he stands in relation to his classmates. If the test shows that he has mastered all the objectives, he proceeds to the next set of objectives. If he has failed to grasp some of them, he and his teacher review them or

he is recycled through a different TLU with the same set of objectives and retested for mastery before he moves on.

SIX-YEAR-OLDS WORK ON THEIR OWN

Six-year-olds enter their individualized classroom in the morning knowing exactly what they are going to do. They go to their locker to pick up the TLU they were working on the day before, gather the material for the activity they are to begin, and start to work. Each youngster could conceivably begin the morning working on a different activity in a different TLU. Because a youngster *is* working individually, at his own pace, absence from school does not affect the continuity of his program. If he is out for a few days, or even weeks, when he returns he can begin exactly where he left off.

If a youngster is having a problem in reading, the teacher can assign remedial activities from another or lower level TLU to reteach or reinforce the concept causing the difficulty. A very bright student can broaden his knowledge with enrichment TLU's, as well as advance to TLU's at the next higher level.

When a child completes a TLU, he will have the satisfaction of having achieved his own goals in the way best suited to his talents.

By allowing children to participate in decisions about their own education, Project PLAN helps them to develop both as pupils and as people, to discover their own strengths and triumph over their own shortcomings. Project PLAN students are taught to become independent, resourceful adults.

THE ROLE OF THE COMPUTER

A central computer, located in Iowa, serves Project PLAN schools throughout the country. A terminal in Parkersburg transmits and receives information on the daily progress of each student, enabling the teacher to plan for the needs of students working at their own pace in several different subjects. The computer scores tests and reports results overnight. Test scores are keyed to specific objectives so that teacher and student know exactly what needs to be reviewed or reinforced. The computer also plays a significant role in the analysis of data for the development of students' Programs of Studies.

NEW ROLES FOR TEACHERS

In Project PLAN classrooms, the teacher is no longer the center of attention and the sole dispenser of information. Instead, she circulates around the room, giving assistance as necessary. She diagnoses student difficulties, offers guidance in times of need, and acts as a resource person when students encounter difficulty. Instead of working with a large group all the time, she more often works with individual students or small groups. One teacher remarks, "I feel as though I know my PLAN students better than I did those in a traditional classroom. Instead of seeing each one only as a part of a large sea of faces, in PLAN I work with each one and get to know them as individuals."

New teachers to PLAN participate in a 3-day orientation visitation program in the spring and a 3-day intensive individualized program in the summer to help them prepare for their PLAN assignments for the coming school year. During the year, a 2-day followup program individually prescribed for each teacher is carried out by the PLAN consulting staff.

The training programs focus on the functioning of PLAN, including the role of the computer. The teacher development program is similar to the students' program: teachers have objectives, pursue learning activities, and are evaluated on their

progress. Objectives include diagnosing individual student needs, prescribing appropriate learning experiences to meet individual needs, and utilizing appropriate classroom management and materials handling techniques.

A significant requisite is the ability of the teaching staff to accept the change in the teacher's role. Parkersburg teachers have made this adjustment and several have commented, "Once having taught in PLAN, I couldn't go back to a traditional classroom."

In addition to the PLAN consultant employed by Westinghouse Learning Corporation, a teacher is employed by the Wood County district to assist in the overall functioning of the PLAN system.

COST FACTORS AND IMPLEMENTATION FEATURES

In Parkersburg the overall pupil cost is $495 per year. For Project PLAN students there is an additional cost of approximately $100 per student, plus a capital outlay of $500 per classroom for additional instructional materials. The latter figure can vary greatly, depending upon the compatibility between the already existing resources within a district and the requirements of the PLAN system. An ongoing cost of the program in Parkersburg is the salary for the half-time coordinator of the program.

Project PLAN was not developed for any one area and is highly transferable. It uses a wide variety of instructional resources and many documents for student use. Thus, in converting a traditional classroom to a Project PLAN classroom, provision should be made for storage of materials and documents; otherwise few changes are necessary.

RESULTS

Students in Project PLAN are doing as well as control students on standardized tests and better on tests designed to measure specific PLAN objectives.

School authorities and parents are not only pleased with the PLAN test results but also cite benefits from the program which are not readily measured by standardized tests. Initiative and independence characterize Project PLAN students, who become skilled in the organization of their own time and adept at using a variety of learning materials. They are self-directed and able to handle important decisionmaking responsibilities well. Because they participate in decisions about their own educational goals, these students are enthusiastic about school and learning.

FOR FURTHER INFORMATION

Many articles have been written about PLAN in professional journals, including: John C. Flanagan, "Functional Education for the Seventies," *Phi Delta Kappan*, XLIX, 1, 1967, 27-32; John C. Flanagan, "Program for Learning in Accordance with Needs," *Psychology in the Schools*, 1969, 6, 133-136; eight articles on PLAN in the February-March 1970 issue of *Education*, vol. 90, no. 3. Westinghouse Learning Corporation has available a 16 mm. color film on the program.

Information on the general aspects of PLAN, which is now being marketed nationwide by Westinghouse Learning Corporation, can be obtained from:

Westinghouse Learning Corporation
2680 Hanover Street
Palo Alto, California 94302

Specific information on the development and implementation of the project in Wood County can be obtained from:

Mr. Ernest Page, Jr.
Assistant Superintendent for Instruction
Wood County Schools
Parkersburg, West Virginia 26101

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MODEL PROGRAMS--Childhood Education

This is one in a series of 34 descriptive booklets on childhood education programs prepared for the White House Conference on Children, December 1970. Following is a list of the programs and their locations:

The Day Nursery Assn. of Cleveland, Ohio
Neighborhood House Child Care Services, Seattle, Wash.
Behavior Analysis Model of a Follow Through Program, Oraibi, Ariz.
Cross-Cultural Family Center, San Francisco, Calif.
NRO Migrant Child Development Center, Pasco, Wash.
Bilingual Early Childhood Program, San Antonio, Tex.
Santa Monica Children's Centers, Calif.
Exemplary Center for Reading Instruction, Salt Lake City, Utah
Dubnoff School for Educational Therapy, North Hollywood, Calif.
Demonstration Nursery Center for Infants and Toddlers, Greensboro, N.C.
Responsive Environment Model of a Follow Through Program, Goldsboro, N.C.
Center for Early Development and Education, Little Rock, Ark.
DOVACK, Monticello, Fla.
Perceptual Development Center Program, Natchez, Miss.
Appalachia Preschool Education Program, Charleston, W. Va.
Foster Grandparent Program, Nashville, Tenn.
Hartford Early Childhood Program, Conn.
Philadelphia Teacher Center, Pa.
Cognitively Oriented Curriculum, Ypsilanti, Mich.
Mothers' Training Program, Urbana, Ill.
The Micro-Social Preschool Learning System, Vineland, N.J.
Project PLAN, Parkersburg, W. Va.
Interdependent Learner Model of a Follow Through Program, New York, N.Y.
San Jose Police Youth Protection Unit, Calif.
Model Observation Kindergarten, Amherst, Mass.
Boston Public Schools Learning Laboratories, Mass.
Martin Luther King Family Center, Chicago, Ill.
Behavior Principles Structural Model of a Follow Through Program, Dayton, Ohio
University of Hawaii Preschool Language Curriculum, Honolulu, Hawaii
Springfield Avenue Community School, Newark, N.J.
Corrective Reading Program, Wichita, Kans.
New Schools Exchange, Santa Barbara, Calif.
Tacoma Public Schools Early Childhood Program, Wash.
Community Cooperative Nursery School, Menlo Park, Calif.

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